

TOWARDS CARBON NEUTRALITY

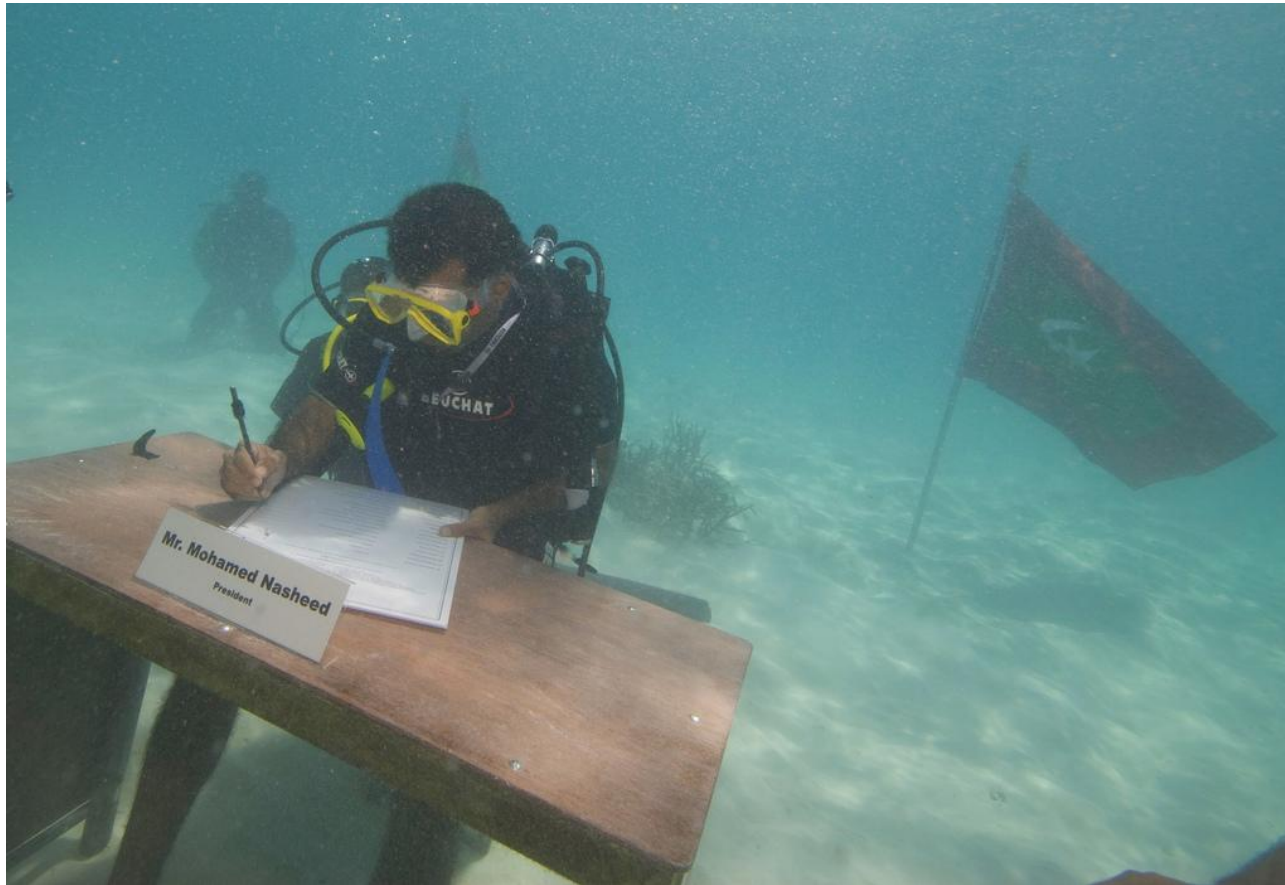
Developing a Renewable Energy Investment Plan for the Maldives

Presented by:

Ministry of Housing & Environment
Male', Republic of Maldives

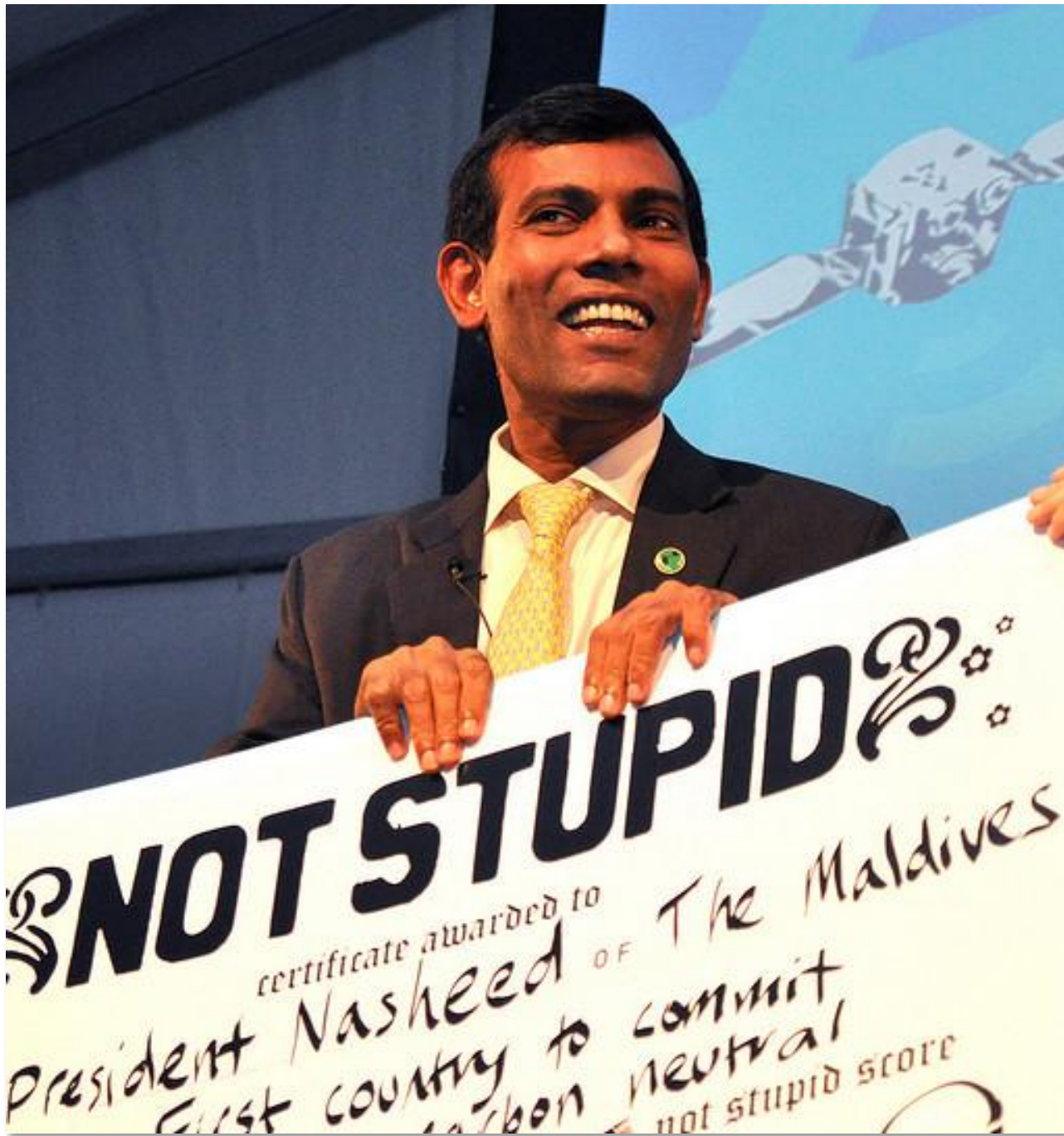
Introduction

**Becoming
Carbon
Neutral by
2020**



"If those with the least (pollution) start doing the most, what excuse can the rich have for continuing inaction?"

President Mohamed Nasheed



President Nasheed accepts a large 'Not Stupid' certificate for the climate neutral policy, 2009



President Nasheed installing solar panels at his official residence, 2010

Why Carbon Neutral Maldives?

- Showing the world that it is possible for a country to reach carbon neutrality is a demonstration of international leadership and a proof that low-carbon growth is possible.
- Imported fossil fuel generates more than 80 % of the Maldives' emissions. The country spends over 240M\$ per year importing fossil fuels – a figure equivalent to around 16 % of its GDP (2010).

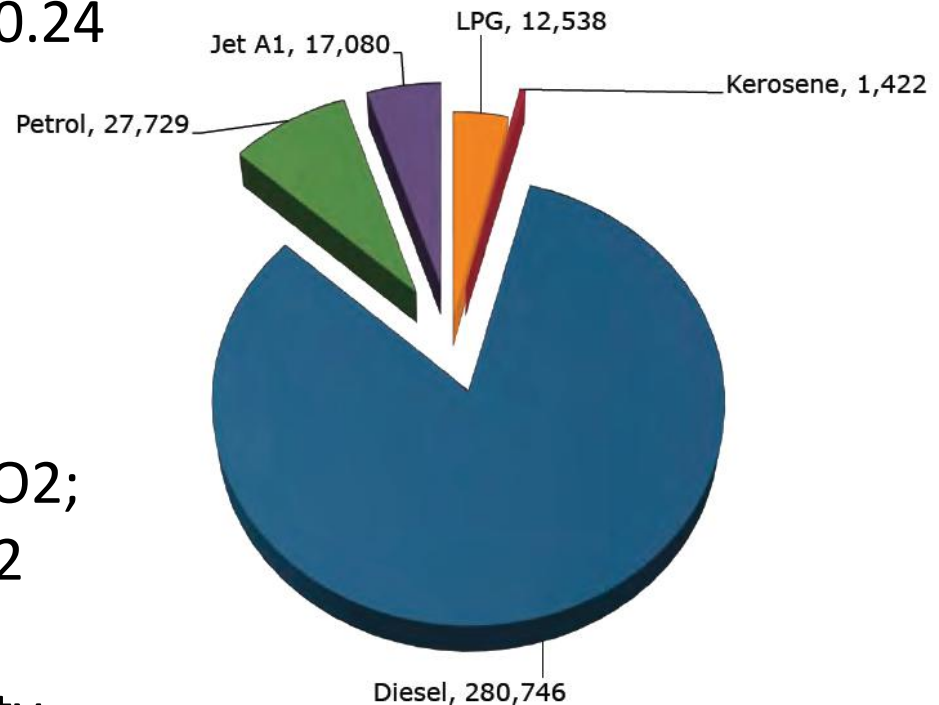


Country Overview

- 1,190 islands
- 199 Inhabited Islands
- Total land area 300 km²
- Islands range between 0.2 – 5 km²
- Population approx. 400,000
- Economy - Tourism and Fishing
- No proven non renewable resources

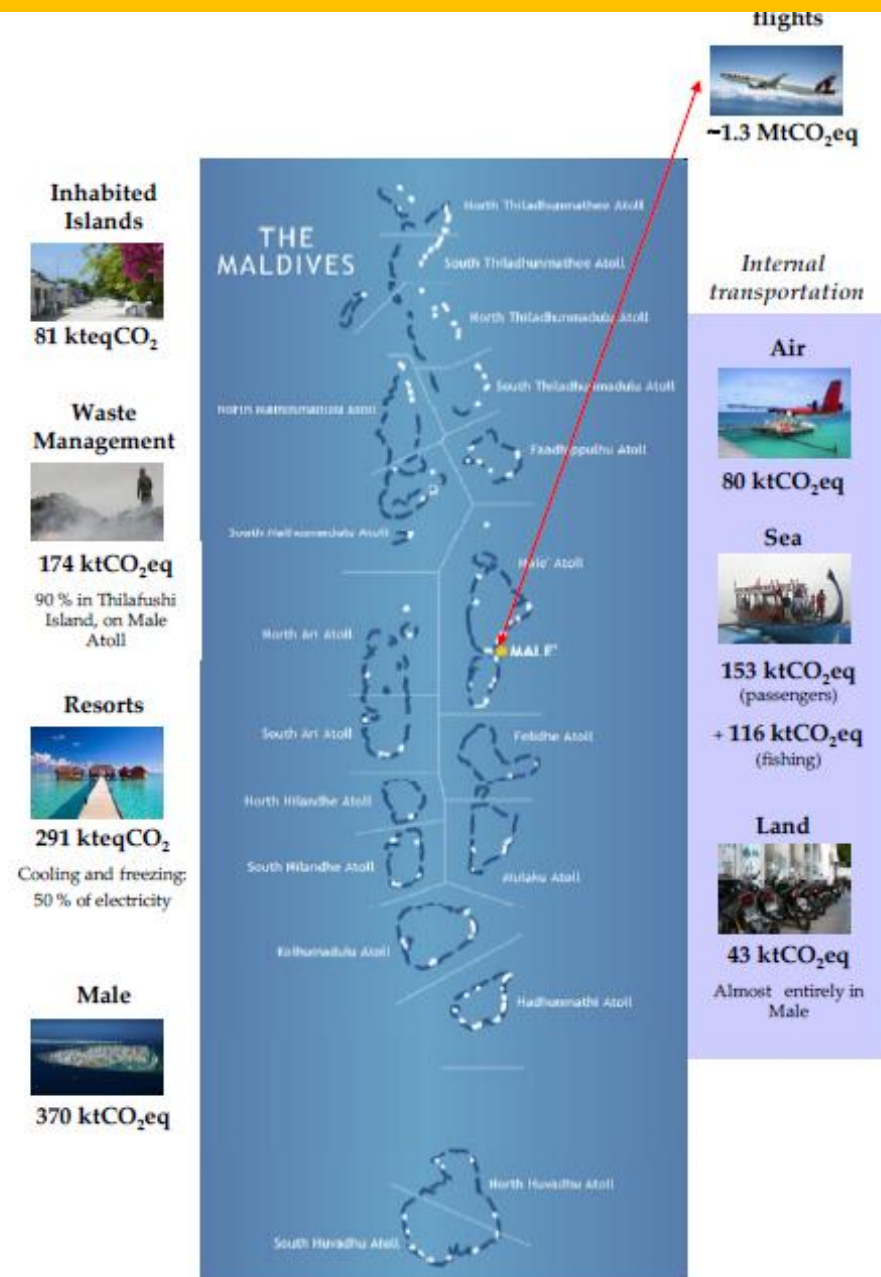
Energy Sector Overview

- ❑ Entirely dependant on imported fossil fuel in meeting energy demand
- ❑ Fuel import: **16%** of GDP = US\$ 0.24 billion (2010)
- ❑ In 2009:
 - Total primary energy consumption: **340,311** toe
 - Total GHG emissions: **1.3** MtCO₂; energy contributes **1.03** MtCO₂
 - **280,746** toe of diesel used; **122,417** toe (44%) for electricity

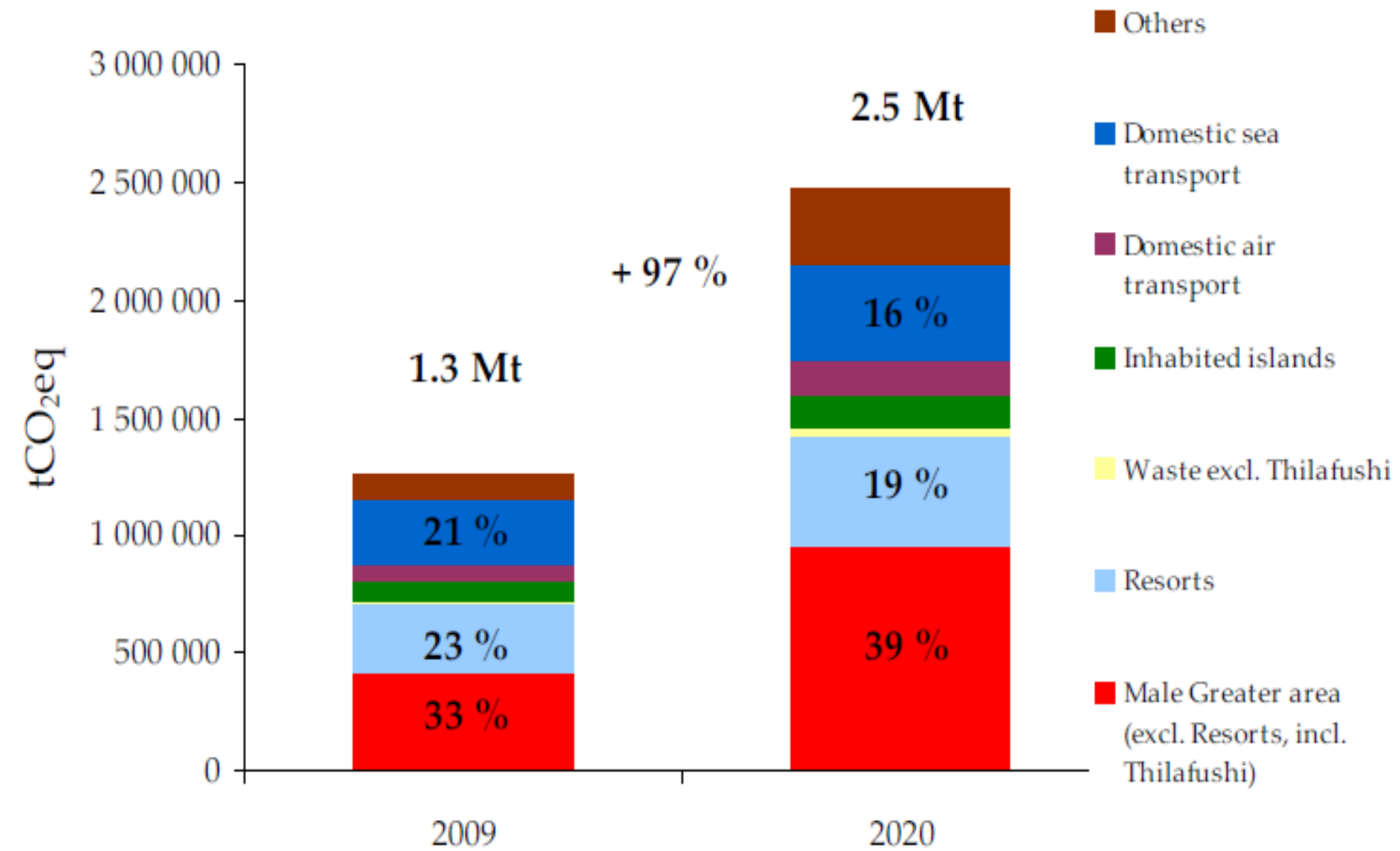


Carbon Audit Report

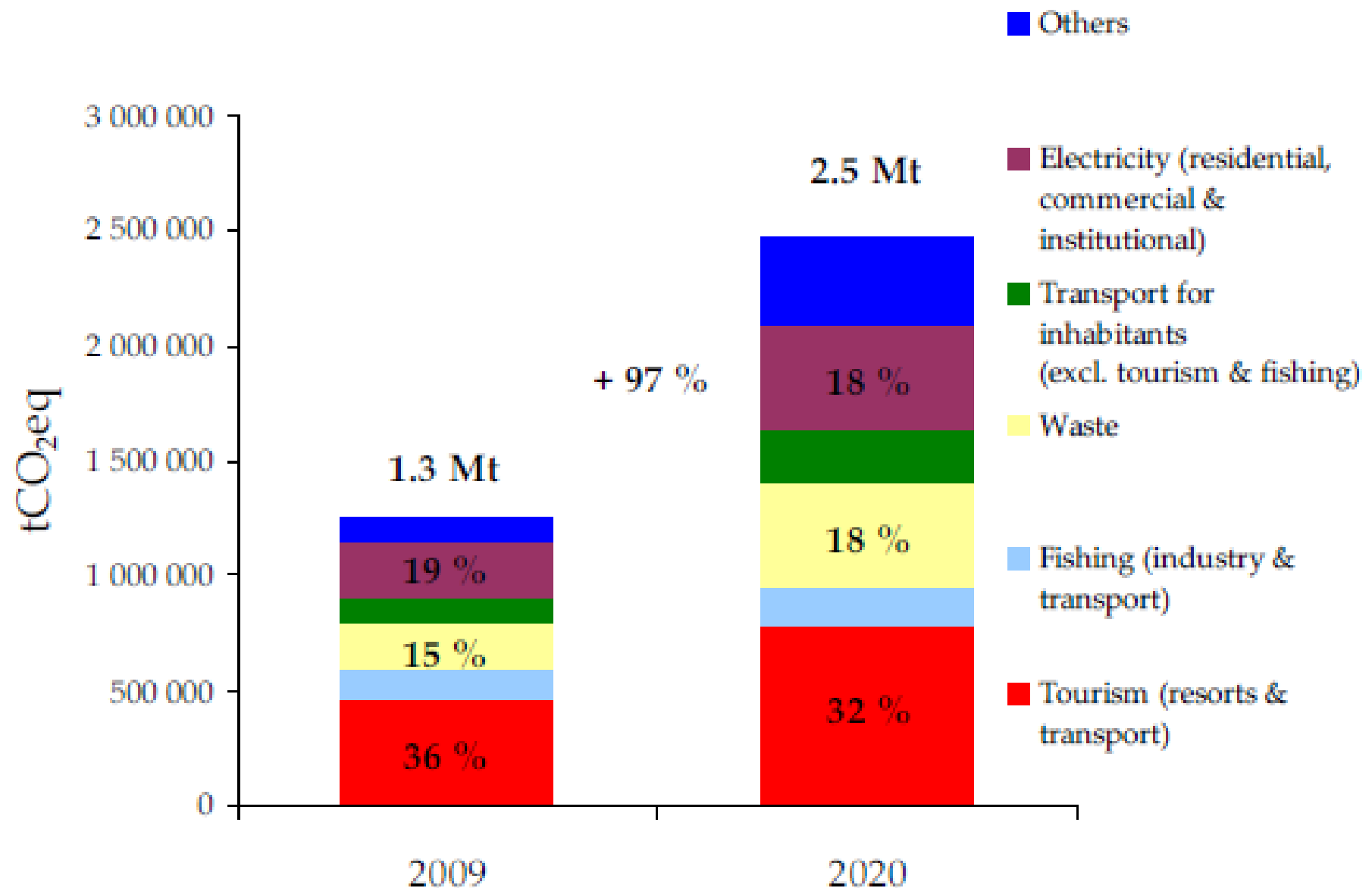
- Carried out for 2009
- GHG emissions projected to 2020
- Priority areas identified for carbon neutrality



Carbon Audit Report – emission by geographical sectors



Carbon Audit Report – emission by economic sectors



SREP is aligned with our strategic objectives

SREP objectives

To pilot and demonstrate, as a response to the challenges of climate change, the economic, social and environmental viability of low carbon development pathways in the energy sector by creating new economic opportunities and increasing energy access through the use of renewable energy.

Maldives Strategic Action Plan

Our carbon neutral policy envisages a switch from fossil fuel to RE by 2020 with planned 50% reduction in electricity generation by fuel by 2015

- Reliable, affordable and sustainable energy supply to all citizens
- Promote RET applications, EE and energy conservation and increase energy security
- Protect the environment and health of the people
- Reduce greenhouse gases emission

SREP Milestones

- CIF Expert Group recommends Maldives for SREP support - June 2010
- Maldives selected as an SREP pilot country – July 2010
- Maldives receives notional \$30M SREP commitment – November 2010
- ADB assistance sought for developing a framework for RE/EE investments – Dec 2010

Framework for Energy Investments in the Maldives

January 2011

Prepared for
Govt. of Maldives Taskforce

Financed by
Asian Development Bank

Technical support provided by:



SREP Milestones (cont'd)

- Joint Scoping Mission – January 2011
- Framework for RE investments – Feb 2011
- Consultancy support for SREP IP – March 2011
- SREP preparatory grant awarded – April 2011
- SREP IP Preparation Study – May 2011:
 - Review Framework for Energy Investments, etc.
 - Gathering additional information and data
 - Prepare 5-year SREP IP, including RE and EE
- Joint Technical Mission – June 2011
- Joint Mission and Draft IP – September 2011
- SREP IP ready for approval – November 2011

Barriers and Challenges

- Small sized islands and large geographic distribution
- No conventional energy resources
- Non-availability of RE resource data
- Inadequate financing and lack of financial sector experience
- Lack of proper institutional structure and regulatory framework
- Weak technical capacity
- Lack of public awareness of RE/EE options
- Limited field demonstration of RETs

National Energy Policy & Strategy

- Cabinet approval in December 2010
- Provide continuous, reliable and affordable energy supply to all islands
- Promote RE, EE and conservation
- Achieve carbon neutrality
- Increase national energy security
- Strengthen energy sector management
- Adopt appropriate pricing policy
- Ensure customer protection
- Enhance quality of services



Recent Policy Initiatives

- Increasing financial viability of RE investments
 - Import duty exemption for RE products (especially electrical and RE powered vehicles)
 - RE feed-in tariff of 3.5MRf (~USD 0.23) per kWh of which gov't to provide 0.5MRf subsidy to utilities

Strengthening Regulatory Framework

- Support from WB Energy Sector Management Assistance Program
 - Analysis of options for energy sector regulation - completed Feb 2011
 - Roadmap for detailed regulatory framework and strengthening of the Maldives Energy Authority – in progress
- ADB to assist with regulatory capacity building

Capacity Building

- South-South Experience Exchange Trust Fund under World Bank
 - Study tours to Philippines and Reunion Island, virtual exchange sessions with the Caribbean, and stakeholder knowledge dissemination workshop



Other Notable Demonstrations

- First solar-diesel hybrid project – 2006
- Other pilot projects (wind, solar, diesel)
- Solar PV support:
 - Conducted feasibility for grid connected rooftop solar PV for Male' and Hulhumale' (JICA, 2009)
 - 395kWp solar rooftops for Male' (JICA, approved)
 - 10,000 rooftops solar PV project (ADB, proposed)
 - 40kWp solar PV for a small island (E8-ADB, planned)
- RE/EE plan and investments for Thinadhoo Island (WB-CCTF funded by EU/AusAid, in progress)

Conclusions

- Commitment to carbon neutrality
- RE/EE investments vital for economy, energy security and sustainable development
- Private sector crucial for success
- SREP support critical to achieving national objectives



“We know this is not an easy step to take, and that there might be dangers along the way. We want to shine a light, not loudly demand that others go first into the dark.”

President Mohammed Nasheed